CLAIMS:

1.   A method of image processing on a computer, comprising the steps of:

    (i)   importing a digital image of an article, the image further including a representation of a reference object having a predetermined colour;

    (ii)   colour-correcting the digital image on the basis of the reference object so as to generate a true-colour digital image;

    (iii)   selecting at least a portion of the true-colour digital image containing a representation of the article;

    (iv)   determining true-colour attributes of pixels within the selected portion of the true-colour digital image;

    (v)   generating a second digital image corresponding to the selected portion of the true-colour digital image, but replacing true-colour attributes of each pixel with colour attributes selected from a database of predetermined colour attributes, for each pixel selecting predetermined colour attributes from the database closest to the true-colour attributes as determined by a predetermined algorithm; and

    (vi)   generating a third digital image corresponding to the second digital image, but replacing the colour attributes selected from the database for each pixel with mutually distinguishable false-colour attributes so as to form a contour image clearly distinguishing respective sets of pixels sharing the same predetermined colour attributes.

2.   A method according to claim 1, wherein the database of predetermined colour attributes contains fewer discrete colour attributes than are present in the true-colour digital image.

3.   A method according to claim 1 or 2, wherein the predetermined algorithm in step (v) is an octree quantisation algorithm.

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4.   A method according to any preceding claim, wherein the third digital image in step (vi) is generated by determining a range key value for each pixel in the second digital image and then representing this range key value at corresponding pixels in the third digital image with mutually distinguishable colour attributes on a pixel-by-
5   pixel basis.

5.   A method according to claim 4, wherein the range key value for each pixel in the second digital image is determined by dividing a red component value by 16 and determining an integer part thereof, dividing a green component value by 16 and
10   determining an integer part thereof and dividing a blue component value by 16 and determining an integer part thereof.

6.   A method according to any preceding claim, wherein the second and third digital images are displayed together on a visual display unit.

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7.   A method according to any preceding claim, wherein the second and third digital images are displayed together on a colour printout.

8.   A method according to any preceding claim, wherein the article is a tooth, the
20   database is a database of ceramics colours or the like used for manufacturing dental prostheses, and the third digital image is a template for manufacturing a dental prosthesis.

9.   An image processing system, the system comprising a computer and:
25   (i)   means for importing a digital image of an article, the image further
                including a representation of a reference object having a
                predetermined colour;
        (ii)   means for colour-correcting the digital image on the basis of the
                reference object so as to generate a true-colour digital image;
30   (iii)   means for selecting at least a portion of the true-colour digital image
                containing a representation of the article;

(iv) means for determining true-colour attributes of pixels within the selected portion of the true-colour digital image;

(v) means for generating a second digital image corresponding to the selected portion of the true-colour digital image, but replacing true-colour attributes of each pixel with colour attributes selected from a database of predetermined colour attributes, for each pixel selecting predetermined colour attributes from the database closest to the true-colour attributes as determined by a predetermined algorithm; and

(vi) means for generating a third digital image corresponding to the second digital image, but replacing the colour attributes selected from the database for each pixel with mutually distinguishable false-colour attributes so as to form a contour image clearly distinguishing respective sets of pixels sharing the same predetermined colour attributes.

10. A system as claimed in claim 9, wherein the database of predetermined colour attributes contains fewer discrete colour attributes than are present in the true-colour digital image.

11. A system as claimed in claim 9 or 10, wherein the predetermined algorithm in step (v) is an octree quantisation algorithm.

12. A system as claimed in any one of claims 9 to 11, wherein the third digital image in step (vi) is generated by determining a range key value for each pixel in the second digital image and then representing this range key value at corresponding pixels in the third digital image with mutually distinguishable colour attributes on a pixel-by-pixel basis.

13. A system as claimed in claim 12, wherein the range key value for each pixel in the second digital image is determined by dividing a red component value by 16 and determining an integer part thereof, dividing a green component value by 16 and

determining an integer part thereof and dividing a blue component value by 16 and determining an integer part thereof.

14.   A system as claimed in any one of claims 9 to 13, wherein the second and third digital images are displayed together on a visual display unit.

15.   A system as claimed in any one of claims 9 to 14, wherein the second and third digital images are displayed together on a colour printout.

10   16.   A system as claimed in any one of claims 9 to 15, wherein the article is a tooth, the database is a database of ceramics colours or the like used for manufacturing dental prostheses, and the third digital image is a template for manufacturing a dental prosthesis.

15   17.   A computer program product for processing an image, the computer program product being operable, when installed on a computer, to:

(i)   import a digital image of an article, the image further including a representation of a reference object having a predetermined colour;

(ii)   colour-correct the digital image on the basis of the reference object so

20   as to generate a true-colour digital image;

(iii)   select at least a portion of the true-colour digital image containing a representation of the article;

(iv)   determine true-colour attributes of pixels within the selected portion of the true-colour digital image;

25   (v)   generate a second digital image corresponding to the selected portion of the true-colour digital image, but replacing true-colour attributes of each pixel with colour attributes selected from a database of predetermined colour attributes, for each pixel selecting predetermined colour attributes from the database closest to the true-

30   colour attributes as determined by a predetermined algorithm; and

(vi)   generate a third digital image corresponding to the second digital image, but replacing the colour attributes selected from the database for each pixel with mutually distinguishable false-colour attributes so as to form a contour image clearly distinguishing respective sets of pixels sharing the same predetermined colour attributes.

18.   A product as claimed in claim 17, wherein the database of predetermined colour attributes contains fewer discrete colour attributes than are present in the true-colour digital image.

19.   A product as claimed in claim 17 or 18, wherein the predetermined algorithm in step (v) is an octree quantisation algorithm.

20.   A product as claimed in any one of claims 17 to 19, wherein the third digital image in step (vi) is generated by determining a range key value for each pixel in the second digital image and then representing this range key value at corresponding pixels in the third digital image with mutually distinguishable colour attributes on a pixel-by-pixel basis.

21.   A product as claimed in claim 20, wherein the range key value for each pixel in the second digital image is determined by dividing a red component value by 16 and determining an integer part thereof, dividing a green component value by 16 and determining an integer part thereof and dividing a blue component value by 16 and determining an integer part thereof.

22.   A product as claimed in any one of claims 17 to 21, wherein the second and third digital images are displayed together on a visual display unit.

23.   A product as claimed in any one of claims 17 to 22, wherein the second and third digital images are displayed together on a colour printout.

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24.   A product as claimed in any one of claims 17 to 23, wherein the article is a tooth, the database is a database of ceramics colours or the like used for manufacturing dental prostheses, and the third digital image is a template for manufacturing a dental prosthesis.

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25.   A method of image processing, substantially as hereinbefore described with reference to the accompanying drawings.

26.   An image processing system, substantially as hereinbefore described with reference to the accompanying drawings.

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27.   A computer program product for processing an image, substantially as hereinbefore described with reference to the accompanying drawings.

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